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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,628	06/07/2001	Shigeru Umino	00F00052US	5155

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YOUNG & THOMPSON
745 SOUTH 23RD STREET 2ND FLOOR
ARLINGTON, VA 22202

EXAMINER

LAVILLA, MICHAEL E

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/857,628	Applicant(s) UMINO ET AL.	
	Examiner Michael La Villa	Art Unit 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,6 and 7 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,6 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20040309</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 26 May 2004 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:
3. The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. Claims 1, 4, 6, and 7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding deletion of the limitation pertaining to "chromium free," throughout the original Specification and claims, applicant has characterized the invention as pertaining to a chromium-free surface treated layer. See, for example, paragraph 1 and claim 1 of the Specification. It is unclear where applicant derives support for having envisaged articles wherein the surface treated layer is not necessarily chromium-free. Regarding the claimed presence of acid salt in the resin layer, it

is unclear where applicant teaches having acid salt compound in the resin layer other than when the resin layer is formed as part of a single treatment step that forms both the intermediate and resin layer. For the reasons discussed in the Response to the Amendment, the originally filed Specification does not appear to teach that acid salt compound would be present as claimed in the resin layer were the resin layer applied by alternative methods.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:
6. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claims 1, 4, 6, and are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - I. Regarding Claim 1, it is unclear whether the phrase “wherein all of the layers are superimposed one on another in the order mentioned” precludes intervening layers.
 - II. Regarding Claim 1, it is unclear what is meant by the phrase “containing the at least two acid salts”. Does this limitation require the presence of acid salt compound in the resin layer or does this limitation only require the presence of anion and cation acid salt components that are the same as the intermediate layer components of “at least two acid salts”? With respect to the latter interpretation, is there merely a requirement that the resin layer be derived from solutions containing said “at least two acid salts” with the respective cation and

anion components being present in the layer? Does the term "acid salt" assume the same meaning in both of the phrases "at least two acid salts" and "containing the at least two acid salts"?

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1, 4, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagashima et al. USP 6,180,177. Nagashima et al. teaches coating a zinc plated steel sheet with a chromium free treating agent that comprises metal acid salts and organic resin components. Nagashima exemplifies various treating liquids which comprise one of the claimed salt anions and cations, but does not exemplify treating liquids which comprise two of the claimed salts of the claimed anions and cations. However, Nagashima suggests that more than one of the

claimed salts may be used in making effective treating liquids. See Nagashima et al. (Abstract; col. 5, lines 5-26; col. 7, line 45 through col. 8, line 41; col. 9, line 19 through col. 19, line 15; col. 11, lines 34-60; Tables 1 and 2; and col. 15, lines 55-67). It would have been obvious to one of ordinary skill in the art at the time of the invention to formulate the treating liquids of Nagashima from more than one of the claimed salts of the claimed anions and cations since Nagashima teaches that effective treating liquids may be formulated in this manner.

Nagashima teaches forming a distinct interfacial region over which a resin is formed. It would be expected that, inherently, there would form, at the interfacial region, a metal acid salt component and, at the overlayer region, resin mixed with metal acid salt component. Nagashima teaches forming cross-cuts to do adhesions tests. It would be expected that surface regions can be defined to satisfy the claimed percentage coverage of Claim 6. Dried coatings of Nagashima are described as being at least from 0.01 to 5 g/m², which at 1 g/cm³ density corresponds to from 0.01 to 5 micron thickness. It would have been obvious to one of ordinary skill in the art at the time of the invention to fabricate coating through this range of thicknesses, including the claimed thicknesses, since Nagashima teaches that effective coatings result. Such coatings would be identified with applicant's intermediate and resin layer. Therefore, at the surface interfacial region, that is distinct from the remainder of the coating, a 0.1 micron thickness layer may be defined to meet the claimed terms of the intermediate layer thickness of Claim 4.

Response to Amendment

- I. In view of applicant's amendments and arguments, applicant traverses the section 112, first paragraph rejection of the Office Action mailed on 9 September 2003. The Specification at page 15, lines 5-10 refers to making the resin layer by separately applying a resin layer. The Advisory Action of 18 May 2004 had mentioned that this teaching may overcome the section 112, first paragraph rejection. Upon further consideration, rejection continues to be appropriate. This teaching at page 15, line 5-10 may be referring to what is exemplified in Examples 27-30 (1-4) in Table 2 where an additional resin layer is provided over an already formed single treatment formed intermediate and resin layer. In forming the described intermediate layer mentioned at page 15, lines 5-10 a resin layer would still also be formed in view of the presence of resin material in the treatment liquid for forming the intermediate layer. Hence, it appears the single treatment application is the only method originally disclosed to obtain the claimed articles having acid salt compound in the intermediate and resin layers. Moreover, assuming this method at page 15, lines 5-10 is said to teach an alternative method, it is unclear how the described resin layer is being taught to possess metal salt compound or metal salt ions as claimed. In the examples where a resin layer is applied separately from the intermediate layer, there are no apparent metal salt

compounds or ions present in the separately applied resin layer.

Hence, rejection on this issue is not overcome.

- II. In view of applicant's amendments and arguments, applicant traverses the section 102 rejection over Nagashima of the Office Action mailed on 9 September 2003. Applicant correctly argues that Nagashima does not anticipate the presently claimed subject matter. Particularly, Nagashima does not exemplify using more than one claimed salt of the claimed anions and cations and does exemplify using salts that are not claimed. It is noted that the claims do not preclude the presence of the exemplified salts of Nagashima. Applicant argues that Nagashima does not teach the claimed thicknesses, but for the reasons provided in the rejection these arguments are not persuasive. Applicant argues that the layered and interfacial structure of Nagashima is not the same as that contemplated by applicant's articles. There does appear to be a difference in structural description of the articles of applicant and those of Nagashima. However, the claimed terminology appears to encompass the articles rendered obvious by Nagashima for the reasons stated in the rejection.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is

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(571) 272-1539. The examiner can normally be reached on Monday through Friday.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael La Villa
22 July 2004

